Release notes for ENDF/B Development n-024_Cr_050 evaluation

April 26, 2017

- **checkr** Warnings:

    1. A previous error halted parsing of the current section
       MAT=2425, MF= 1, MT=451 (1): Parsing stopped

       ```
       ERROR(S) FOUND IN MAT=2425, MF= 1, MT=451
           SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER     493 TO     562
       ```

- **checkr** Errors:

    1. A variable is outside the allowed ENDF range
       MAT=2425, MF= 1, MT=451 (0): Variable range

       ```
       ERROR(S) FOUND IN MAT=2425, MF= 1, MT=451
           MOD =     5 OUT OF RANGE    0 -    0          RECORD NUMBER     493
       ```

    2. Missing a section in directory so your directory is messed up. This error will break everything else
       MAT=2425, MF= 2, MT=151 (0): Directory (b)

       ```
       ERROR(S) FOUND IN MAT=2425, MF= 2, MT=151
           SECTION  2/151 NOT IN DIRECTORY              RECORD NUMBER     564
       ```

    3. Missing a section in directory so your directory is messed up. This error will break everything else
       MAT=2425, MF= 3, MT= 1 (0): Directory (b)

       ```
       ERROR(S) FOUND IN MAT=2425, MF= 3, MT=  1
           SECTION  3/  1 NOT IN DIRECTORY              RECORD NUMBER     966
       ```

    4. Missing a section in directory so your directory is messed up. This error will break everything else
       MAT=2425, MF= 3, MT= 2 (0): Directory (b)

       ```
       ERROR(S) FOUND IN MAT=2425, MF= 3, MT=  2
           SECTION  3/  2 NOT IN DIRECTORY              RECORD NUMBER    1427
       ```

    5. Missing a section in directory so your directory is messed up. This error will break everything else
       MAT=2425, MF= 3, MT= 3 (0): Directory (b)

       ```
       ERROR(S) FOUND IN MAT=2425, MF= 3, MT=  3
           SECTION  3/  3 NOT IN DIRECTORY              RECORD NUMBER    1887
       ```

    6. Missing a section in directory so your directory is messed up. This error will break everything else
       MAT=2425, MF= 3, MT= 4 (0): Directory (b)

       ```
       ERROR(S) FOUND IN MAT=2425, MF= 3, MT=  4
           SECTION  3/  4 NOT IN DIRECTORY              RECORD NUMBER    1959
       ```

    7. Missing a section in directory so your directory is messed up. This error will break everything else
       MAT=2425, MF= 3, MT= 5 (0): Directory (b)

1

```
          ERROR(S) FOUND IN MAT=2425, MF= 3, MT=  5
            SECTION  3/  5 NOT IN DIRECTORY                RECORD NUMBER    1977
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2425, MF= 3, MT= 16 (0): Directory (b)

```
          ERROR(S) FOUND IN MAT=2425, MF= 3, MT= 16
            SECTION  3/ 16 NOT IN DIRECTORY                RECORD NUMBER    2030
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2425, MF= 3, MT= 22 (0): Directory (b)

```
          ERROR(S) FOUND IN MAT=2425, MF= 3, MT= 22
            SECTION  3/ 22 NOT IN DIRECTORY                RECORD NUMBER    2038
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2425, MF= 3, MT= 28 (0): Directory (b)

```
          ERROR(S) FOUND IN MAT=2425, MF= 3, MT= 28
            SECTION  3/ 28 NOT IN DIRECTORY                RECORD NUMBER    2045
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2425, MF= 3, MT= 51 (0): Directory (b)

```
          ERROR(S) FOUND IN MAT=2425, MF= 3, MT= 51
            SECTION  3/ 51 NOT IN DIRECTORY                RECORD NUMBER    2053
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2425, MF= 3, MT= 52 (0): Directory (b)

```
          ERROR(S) FOUND IN MAT=2425, MF= 3, MT= 52
            SECTION  3/ 52 NOT IN DIRECTORY                RECORD NUMBER    2069
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2425, MF= 3, MT= 53 (0): Directory (b)

```
          ERROR(S) FOUND IN MAT=2425, MF= 3, MT= 53
            SECTION  3/ 53 NOT IN DIRECTORY                RECORD NUMBER    2083
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2425, MF= 3, MT= 54 (0): Directory (b)

```
          ERROR(S) FOUND IN MAT=2425, MF= 3, MT= 54
            SECTION  3/ 54 NOT IN DIRECTORY                RECORD NUMBER    2096
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2425, MF= 3, MT= 55 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=2425, MF= 3, MT= 55
            SECTION  3/ 55 NOT IN DIRECTORY                RECORD NUMBER    2108
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
$MAT=2425, MF= 3, MT= 56\ (0): Directory\ (b)$

```
        ERROR(S) FOUND IN MAT=2425, MF= 3, MT= 56
            SECTION  3/ 56 NOT IN DIRECTORY                RECORD NUMBER    2120
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
$MAT=2425, MF= 3, MT= 91\ (0): Directory\ (b)$

```
        ERROR(S) FOUND IN MAT=2425, MF= 3, MT= 91
            SECTION  3/ 91 NOT IN DIRECTORY                RECORD NUMBER    2132
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
$MAT=2425, MF= 3, MT=102\ (0): Directory\ (b)$

```
        ERROR(S) FOUND IN MAT=2425, MF= 3, MT=102
            SECTION  3/102 NOT IN DIRECTORY                RECORD NUMBER    2144
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
$MAT=2425, MF= 3, MT=103\ (0): Directory\ (b)$

```
        ERROR(S) FOUND IN MAT=2425, MF= 3, MT=103
            SECTION  3/103 NOT IN DIRECTORY                RECORD NUMBER    2155
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
$MAT=2425, MF= 3, MT=104\ (0): Directory\ (b)$

```
        ERROR(S) FOUND IN MAT=2425, MF= 3, MT=104
            SECTION  3/104 NOT IN DIRECTORY                RECORD NUMBER    2170
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
$MAT=2425, MF= 3, MT=107\ (0): Directory\ (b)$

```
        ERROR(S) FOUND IN MAT=2425, MF= 3, MT=107
            SECTION  3/107 NOT IN DIRECTORY                RECORD NUMBER    2178
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
$MAT=2425, MF= 4, MT= 2\ (0): Directory\ (b)$

```
        ERROR(S) FOUND IN MAT=2425, MF= 4, MT=  2
            SECTION  4/  2 NOT IN DIRECTORY                RECORD NUMBER    2193
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
$MAT=2425, MF= 6, MT= 5\ (0): Directory\ (b)$

```
            ERROR(S) FOUND IN MAT=2425, MF= 6, MT=  5
              SECTION  6/  5 NOT IN DIRECTORY                RECORD NUMBER    6443
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=2425, MF= 6, MT= 16 (0): Directory (b)

```
            ERROR(S) FOUND IN MAT=2425, MF= 6, MT= 16
              SECTION  6/ 16 NOT IN DIRECTORY                RECORD NUMBER   19316
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=2425, MF= 6, MT= 22 (0): Directory (b)

```
            ERROR(S) FOUND IN MAT=2425, MF= 6, MT= 22
              SECTION  6/ 22 NOT IN DIRECTORY                RECORD NUMBER   19467
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=2425, MF= 6, MT= 28 (0): Directory (b)

```
            ERROR(S) FOUND IN MAT=2425, MF= 6, MT= 28
              SECTION  6/ 28 NOT IN DIRECTORY                RECORD NUMBER   19712
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=2425, MF= 6, MT= 51 (0): Directory (b)

```
            ERROR(S) FOUND IN MAT=2425, MF= 6, MT= 51
              SECTION  6/ 51 NOT IN DIRECTORY                RECORD NUMBER   20051
```

28. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=2425, MF= 6, MT= 52 (0): Directory (b)

```
            ERROR(S) FOUND IN MAT=2425, MF= 6, MT= 52
              SECTION  6/ 52 NOT IN DIRECTORY                RECORD NUMBER   20059
```

29. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=2425, MF= 6, MT= 53 (0): Directory (b)

```
            ERROR(S) FOUND IN MAT=2425, MF= 6, MT= 53
              SECTION  6/ 53 NOT IN DIRECTORY                RECORD NUMBER   20067
```

30. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=2425, MF= 6, MT= 54 (0): Directory (b)

```
            ERROR(S) FOUND IN MAT=2425, MF= 6, MT= 54
              SECTION  6/ 54 NOT IN DIRECTORY                RECORD NUMBER   20075
```

31. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=2425, MF= 6, MT= 55 (0): Directory (b)

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```
        ERROR(S) FOUND IN MAT=2425, MF= 6, MT= 55
           SECTION  6/ 55 NOT IN DIRECTORY                    RECORD NUMBER   20083
```

32. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=2425, MF= 6, MT= 56 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=2425, MF= 6, MT= 56
           SECTION  6/ 56 NOT IN DIRECTORY                    RECORD NUMBER   20091
```

33. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=2425, MF= 6, MT= 91 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=2425, MF= 6, MT= 91
           SECTION  6/ 91 NOT IN DIRECTORY                    RECORD NUMBER   20099
```

34. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=2425, MF= 6, MT=103 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=2425, MF= 6, MT=103
           SECTION  6/103 NOT IN DIRECTORY                    RECORD NUMBER   21001
```

35. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=2425, MF= 6, MT=107 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=2425, MF= 6, MT=107
           SECTION  6/107 NOT IN DIRECTORY                    RECORD NUMBER   21894
```

36. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=2425, MF=12, MT= 51 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=2425, MF=12, MT= 51
           SECTION 12/ 51 NOT IN DIRECTORY                    RECORD NUMBER   22852
```

37. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=2425, MF=12, MT= 52 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=2425, MF=12, MT= 52
           SECTION 12/ 52 NOT IN DIRECTORY                    RECORD NUMBER   22856
```

38. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=2425, MF=12, MT= 53 (0): Directory (b)

```
        ERROR(S) FOUND IN MAT=2425, MF=12, MT= 53
           SECTION 12/ 53 NOT IN DIRECTORY                    RECORD NUMBER   22860
```

39. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=2425, MF=12, MT= 54 (0): Directory (b)

```
         ERROR(S) FOUND IN MAT=2425, MF=12, MT= 54
            SECTION 12/ 54 NOT IN DIRECTORY                RECORD NUMBER   22864
```

40. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=2425, MF=12, MT= 55 (0): Directory (b)

```
         ERROR(S) FOUND IN MAT=2425, MF=12, MT= 55
            SECTION 12/ 55 NOT IN DIRECTORY                RECORD NUMBER   22868
```

41. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=2425, MF=12, MT= 56 (0): Directory (b)

```
         ERROR(S) FOUND IN MAT=2425, MF=12, MT= 56
            SECTION 12/ 56 NOT IN DIRECTORY                RECORD NUMBER   22872
```

42. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=2425, MF=12, MT=102 (0): Directory (b)

```
         ERROR(S) FOUND IN MAT=2425, MF=12, MT=102
            SECTION 12/102 NOT IN DIRECTORY                RECORD NUMBER   22876
```

43. Missing a gamma spectrum for continuum of gammas
    MAT=2425, MF=12, MT=102 (1): No gamma spectrum

```
         ERROR(S) FOUND IN MAT=2425, MF=12, MT=102
            CONTINUUM PHOTONS REQUIRE A SECTION IN MF=15
```

44. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=2425, MF=14, MT= 51 (0): Directory (b)

```
         ERROR(S) FOUND IN MAT=2425, MF=14, MT= 51
            SECTION 14/ 51 NOT IN DIRECTORY                RECORD NUMBER   23175
```

45. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=2425, MF=14, MT= 52 (0): Directory (b)

```
         ERROR(S) FOUND IN MAT=2425, MF=14, MT= 52
            SECTION 14/ 52 NOT IN DIRECTORY                RECORD NUMBER   23177
```

46. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=2425, MF=14, MT= 53 (0): Directory (b)

```
         ERROR(S) FOUND IN MAT=2425, MF=14, MT= 53
            SECTION 14/ 53 NOT IN DIRECTORY                RECORD NUMBER   23179
```

47. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=2425, MF=14, MT= 54 (0): Directory (b)

```
         ERROR(S) FOUND IN MAT=2425, MF=14, MT= 54
            SECTION 14/ 54 NOT IN DIRECTORY                RECORD NUMBER   23181
```

48. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2425, MF=14, MT= 55 (0): Directory (b)

```
    ERROR(S) FOUND IN MAT=2425, MF=14, MT= 55
        SECTION 14/ 55 NOT IN DIRECTORY              RECORD NUMBER    23183
```

49. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2425, MF=14, MT= 56 (0): Directory (b)

```
    ERROR(S) FOUND IN MAT=2425, MF=14, MT= 56
        SECTION 14/ 56 NOT IN DIRECTORY              RECORD NUMBER    23185
```

50. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2425, MF=14, MT=102 (0): Directory (b)

```
    ERROR(S) FOUND IN MAT=2425, MF=14, MT=102
        SECTION 14/102 NOT IN DIRECTORY              RECORD NUMBER    23187
```

51. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2425, MF=15, MT=102 (0): Directory (b)

```
    ERROR(S) FOUND IN MAT=2425, MF=15, MT=102
        SECTION 15/102 NOT IN DIRECTORY              RECORD NUMBER    23190
```

52. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2425, MF=32, MT=151 (0): Directory (b)

```
    ERROR(S) FOUND IN MAT=2425, MF=32, MT=151
        SECTION 32/151 NOT IN DIRECTORY              RECORD NUMBER    23423
```

53. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2425, MF=33, MT= 1 (0): Directory (b)

```
    ERROR(S) FOUND IN MAT=2425, MF=33, MT=  1
        SECTION 33/  1 NOT IN DIRECTORY              RECORD NUMBER   139759
```

54. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2425, MF=33, MT= 2 (0): Directory (b)

```
    ERROR(S) FOUND IN MAT=2425, MF=33, MT=  2
        SECTION 33/  2 NOT IN DIRECTORY              RECORD NUMBER   139780
```

55. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2425, MF=33, MT= 3 (0): Directory (b)

```
    ERROR(S) FOUND IN MAT=2425, MF=33, MT=  3
        SECTION 33/  3 NOT IN DIRECTORY              RECORD NUMBER   139807
```

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56. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2425, MF=33, MT= 4 (0): Directory (b)

```
    ERROR(S) FOUND IN MAT=2425, MF=33, MT=  4
       SECTION 33/  4 NOT IN DIRECTORY                 RECORD NUMBER  139821
```

57. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2425, MF=33, MT= 16 (0): Directory (b)

```
    ERROR(S) FOUND IN MAT=2425, MF=33, MT= 16
       SECTION 33/ 16 NOT IN DIRECTORY                 RECORD NUMBER  139831
```

58. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2425, MF=33, MT= 22 (0): Directory (b)

```
    ERROR(S) FOUND IN MAT=2425, MF=33, MT= 22
       SECTION 33/ 22 NOT IN DIRECTORY                 RECORD NUMBER  139846
```

59. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2425, MF=33, MT= 28 (0): Directory (b)

```
    ERROR(S) FOUND IN MAT=2425, MF=33, MT= 28
       SECTION 33/ 28 NOT IN DIRECTORY                 RECORD NUMBER  139863
```

60. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2425, MF=33, MT= 51 (0): Directory (b)

```
    ERROR(S) FOUND IN MAT=2425, MF=33, MT= 51
       SECTION 33/ 51 NOT IN DIRECTORY                 RECORD NUMBER  139880
```

61. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2425, MF=33, MT= 52 (0): Directory (b)

```
    ERROR(S) FOUND IN MAT=2425, MF=33, MT= 52
       SECTION 33/ 52 NOT IN DIRECTORY                 RECORD NUMBER  139895
```

62. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2425, MF=33, MT= 53 (0): Directory (b)

```
    ERROR(S) FOUND IN MAT=2425, MF=33, MT= 53
       SECTION 33/ 53 NOT IN DIRECTORY                 RECORD NUMBER  139910
```

63. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2425, MF=33, MT= 54 (0): Directory (b)

```
    ERROR(S) FOUND IN MAT=2425, MF=33, MT= 54
       SECTION 33/ 54 NOT IN DIRECTORY                 RECORD NUMBER  139925
```

64. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2425, MF=33, MT= 55 (0): Directory (b)

```
    ERROR(S) FOUND IN MAT=2425, MF=33, MT= 55
       SECTION 33/ 55 NOT IN DIRECTORY               RECORD NUMBER  139940
```

65. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2425, MF=33, MT= 56 (0): Directory (b)

```
    ERROR(S) FOUND IN MAT=2425, MF=33, MT= 56
       SECTION 33/ 56 NOT IN DIRECTORY               RECORD NUMBER  139955
```

66. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2425, MF=33, MT= 91 (0): Directory (b)

```
    ERROR(S) FOUND IN MAT=2425, MF=33, MT= 91
       SECTION 33/ 91 NOT IN DIRECTORY               RECORD NUMBER  139970
```

67. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2425, MF=33, MT=102 (0): Directory (b)

```
    ERROR(S) FOUND IN MAT=2425, MF=33, MT=102
       SECTION 33/102 NOT IN DIRECTORY               RECORD NUMBER  139987
```

68. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2425, MF=33, MT=103 (0): Directory (b)

```
    ERROR(S) FOUND IN MAT=2425, MF=33, MT=103
       SECTION 33/103 NOT IN DIRECTORY               RECORD NUMBER  140005
```

69. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2425, MF=33, MT=104 (0): Directory (b)

```
    ERROR(S) FOUND IN MAT=2425, MF=33, MT=104
       SECTION 33/104 NOT IN DIRECTORY               RECORD NUMBER  140024
```

70. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2425, MF=33, MT=107 (0): Directory (b)

```
    ERROR(S) FOUND IN MAT=2425, MF=33, MT=107
       SECTION 33/107 NOT IN DIRECTORY               RECORD NUMBER  140039
```

- psyche Warnings:

    1. Gamma width not in agreement with PSYCHE's expectations
    FILE 2 / SECTION 151 / ISOTOPE MASS = 50. L = 1 / AT RESONANCE ENERGY 5.46200E+03 EV. THE GAMMA WIDTH 1.00000E-02 DEVIATES TOO MUCH FROM THE AVERAGE 6.35966E-01 (0): Gamma width

```
         FILE  2
            SECTION 151
               ISOTOPE MASS =  50. L =   1
                        AT RESONANCE ENERGY  5.46200E+03 EV. THE GAMMA WIDTH  1.00000E-02 DEVIATES TOO MUCH FROM THE AV
```

2. Gamma width not in agreement with PSYCHE's expectations
   *FILE 2 / SECTION 151 / ISOTOPE MASS = 50. L = 1 / AT RESONANCE
   ENERGY 9.30400E+03 EV. THE GAMMA WIDTH 3.33000E+00 DEVIATES TOO
   MUCH FROM THE AVERAGE 6.35966E-01 (0): Gamma width*

```
         FILE  2
            SECTION 151
               ISOTOPE MASS =  50. L =   1
                        AT RESONANCE ENERGY  9.30400E+03 EV. THE GAMMA WIDTH  3.33000E+00 DEVIATES TOO MUCH FROM THE AV
```

3. Gamma width not in agreement with PSYCHE's expectations
   *FILE 2 / SECTION 151 / ISOTOPE MASS = 50. L = 1 / AT RESONANCE
   ENERGY 2.40840E+04 EV. THE GAMMA WIDTH 1.70000E-01 DEVIATES TOO
   MUCH FROM THE AVERAGE 6.35966E-01 (0): Gamma width*

```
         FILE  2
            SECTION 151
               ISOTOPE MASS =  50. L =   1
                        AT RESONANCE ENERGY  2.40840E+04 EV. THE GAMMA WIDTH  1.70000E-01 DEVIATES TOO MUCH FROM THE AV
```

4. Gamma width not in agreement with PSYCHE's expectations
   *FILE 2 / SECTION 151 / ISOTOPE MASS = 50. L = 1 / AT RESONANCE
   ENERGY 9.87324E+04 EV. THE GAMMA WIDTH 2.22000E+00 DEVIATES TOO
   MUCH FROM THE AVERAGE 6.35966E-01 (0): Gamma width*

```
         FILE  2
            SECTION 151
               ISOTOPE MASS =  50. L =   1
                        AT RESONANCE ENERGY  9.87324E+04 EV. THE GAMMA WIDTH  2.22000E+00 DEVIATES TOO MUCH FROM THE AV
```

5. Gamma width not in agreement with PSYCHE's expectations
   *FILE 2 / SECTION 151 / ISOTOPE MASS = 50. L = 1 / AT RESONANCE
   ENERGY 1.36802E+05 EV. THE GAMMA WIDTH 3.70000E+00 DEVIATES TOO
   MUCH FROM THE AVERAGE 6.35966E-01 (0): Gamma width*

```
         FILE  2
            SECTION 151
               ISOTOPE MASS =  50. L =   1
                        AT RESONANCE ENERGY  1.36802E+05 EV. THE GAMMA WIDTH  3.70000E+00 DEVIATES TOO MUCH FROM THE AV
```

6. Gamma width not in agreement with PSYCHE's expectations
   *FILE 2 / SECTION 151 / ISOTOPE MASS = 50. L = 1 / AT RESONANCE
   ENERGY 1.77441E+05 EV. THE GAMMA WIDTH 2.10000E+00 DEVIATES TOO
   MUCH FROM THE AVERAGE 6.35966E-01 (0): Gamma width*

```
         FILE  2
            SECTION 151
               ISOTOPE MASS =  50. L =   1
                        AT RESONANCE ENERGY  1.77441E+05 EV. THE GAMMA WIDTH  2.10000E+00 DEVIATES TOO MUCH FROM THE AV
```

7. Gamma width not in agreement with PSYCHE's expectations
   FILE 2 / SECTION 151 / ISOTOPE MASS = 50. L = 1 / AT RESONANCE

ENERGY 1.86739E+05 EV. THE GAMMA WIDTH 3.26000E+00 DEVIATES TOO
MUCH FROM THE AVERAGE 6.35966E-01 (0): Gamma width

```
FILE  2
   SECTION 151
      ISOTOPE MASS =  50. L =  1
                  AT RESONANCE ENERGY  1.86739E+05 EV. THE GAMMA WIDTH  3.26000E+00 DEVIATES TOO MUCH FROM THE AV
```

8. Gamma width not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ISOTOPE MASS = 50. L = 1 / AT RESONANCE
ENERGY 1.88466E+05 EV. THE GAMMA WIDTH 2.19000E+00 DEVIATES TOO
MUCH FROM THE AVERAGE 6.35966E-01 (0): Gamma width

```
FILE  2
   SECTION 151
      ISOTOPE MASS =  50. L =  1
                  AT RESONANCE ENERGY  1.88466E+05 EV. THE GAMMA WIDTH  2.19000E+00 DEVIATES TOO MUCH FROM THE AV
```

9. Gamma width not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ISOTOPE MASS = 50. L = 1 / AT RESONANCE
ENERGY 2.01908E+05 EV. THE GAMMA WIDTH 3.13000E+00 DEVIATES TOO
MUCH FROM THE AVERAGE 6.35966E-01 (0): Gamma width

```
FILE  2
   SECTION 151
      ISOTOPE MASS =  50. L =  1
                  AT RESONANCE ENERGY  2.01908E+05 EV. THE GAMMA WIDTH  3.13000E+00 DEVIATES TOO MUCH FROM THE AV
```

10. Gamma width not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ISOTOPE MASS = 50. L = 1 / AT RESONANCE
ENERGY 2.07468E+05 EV. THE GAMMA WIDTH 3.35000E+00 DEVIATES TOO
MUCH FROM THE AVERAGE 6.35966E-01 (0): Gamma width

```
FILE  2
   SECTION 151
      ISOTOPE MASS =  50. L =  1
                  AT RESONANCE ENERGY  2.07468E+05 EV. THE GAMMA WIDTH  3.35000E+00 DEVIATES TOO MUCH FROM THE AV
```

11. Gamma width not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ISOTOPE MASS = 50. L = 1 / AT RESONANCE
ENERGY 2.22659E+05 EV. THE GAMMA WIDTH 2.23000E+00 DEVIATES TOO
MUCH FROM THE AVERAGE 6.35966E-01 (0): Gamma width

```
FILE  2
   SECTION 151
      ISOTOPE MASS =  50. L =  1
                  AT RESONANCE ENERGY  2.22659E+05 EV. THE GAMMA WIDTH  2.23000E+00 DEVIATES TOO MUCH FROM THE AV
```

12. Gamma width not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ISOTOPE MASS = 50. L = 1 / AT RESONANCE
ENERGY 2.32257E+05 EV. THE GAMMA WIDTH 1.10000E-01 DEVIATES TOO
MUCH FROM THE AVERAGE 6.35966E-01 (0): Gamma width

```
FILE  2
   SECTION 151
      ISOTOPE MASS =  50. L =  1
                  AT RESONANCE ENERGY  2.32257E+05 EV. THE GAMMA WIDTH  1.10000E-01 DEVIATES TOO MUCH FROM THE AV
```

11

13. Gamma width not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ISOTOPE MASS = 50. L = 1 / AT RESONANCE ENERGY 2.39656E+05 EV. THE GAMMA WIDTH 2.35000E+00 DEVIATES TOO MUCH FROM THE AVERAGE 6.35966E-01 (0): Gamma width

```
FILE  2
   SECTION 151
      ISOTOPE MASS =  50. L =  1
            AT RESONANCE ENERGY  2.39656E+05 EV. THE GAMMA WIDTH  2.35000E+00 DEVIATES TOO MUCH FROM THE AV
```

14. Gamma width not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ISOTOPE MASS = 50. L = 1 / AT RESONANCE ENERGY 2.51517E+05 EV. THE GAMMA WIDTH 2.52000E+00 DEVIATES TOO MUCH FROM THE AVERAGE 6.35966E-01 (0): Gamma width

```
FILE  2
   SECTION 151
      ISOTOPE MASS =  50. L =  1
            AT RESONANCE ENERGY  2.51517E+05 EV. THE GAMMA WIDTH  2.52000E+00 DEVIATES TOO MUCH FROM THE AV
```

15. Gamma width not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ISOTOPE MASS = 50. L = 2 / AT RESONANCE ENERGY 1.50577E+05 EV. THE GAMMA WIDTH 3.05000E+00 DEVIATES TOO MUCH FROM THE AVERAGE 6.71694E-01 (0): Gamma width

```
FILE  2
   SECTION 151
      ISOTOPE MASS =  50. L =  2
            AT RESONANCE ENERGY  1.50577E+05 EV. THE GAMMA WIDTH  3.05000E+00 DEVIATES TOO MUCH FROM THE AV
```

16. Non-threshold reaction with Q value differing from PSYCHE's expectations
FILE 3 / SECTION 107 / THE CALCULATED Q 3.69906E+05 DISSAGREES WITH THE GIVEN Q 3.19500E+05 (0): Iffy Q

```
FILE  3
   SECTION 107
            THE CALCULATED Q  3.69906E+05 DISSAGREES WITH THE GIVEN Q  3.19500E+05
```

- `groupie` Errors:

  1. Very small elastic cross section found
     0: Small elastic

     ```
     Multi-Group and Multi-Band Parameters from ENDF/B Data (GROUPIE 2015-2)
     -----------------------------------------------------------------------
     ENDF/B Input and Output Data Filenames
     ENDFB.IN
     ENDFB.OUT
     ... [97 more lines]
     ```

- `fudge-4.0` Warnings:

  1. Cross section does not match sum of linked reaction cross sections
     crossSectionSum label 0: total (Error # 0): CS Sum.

     ```
     WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 0.18%
     ```

2. Cross section does not match sum of linked reaction cross sections
   crossSectionSum label 1: nonelastic (Error # 0): CS Sum.

   ```
   WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 96.43%
   ```

3. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
   Section 0 (total): / Form 'eval': / Component 1 (Error # 0): Condition num.

   ```
   WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
   ```

4. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
   Section 0 (total): / Form 'eval': / Component 2 (Error # 0): Condition num.

   ```
   WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
   ```

5. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
   Section 0 (total): / Form 'eval': / Component 3 (Error # 0): Condition num.

   ```
   WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
   ```

6. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
   Section 0 (total): / Form 'eval': / Component 4 (Error # 0): Condition num.

   ```
   WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
   ```

7. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
   Section 1 (n + Cr50): / Form 'eval': / Component 1 (Error # 0): Condition num.

   ```
   WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
   ```

8. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
   Section 2 (nonelastic): / Form 'eval': / Component 0 (Error # 0): Condition num.

   ```
   WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
   ```

9. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
   Section 2 (nonelastic): / Form 'eval': / Component 1 (Error # 0): Condition num.

   ```
   WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
   ```

10. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
    Section 2 (nonelastic): / Form 'eval': / Component 2 (Error # 0): Condition num.

    ```
    WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
    ```

11. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
    Section 4 (n[multiplicity:'2'] + Cr49 + gamma): / Form 'eval': / Component 0 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

12. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 4 (n[multiplicity:'2'] + Cr49 + gamma): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

13. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 4 (n[multiplicity:'2'] + Cr49 + gamma): / Form 'eval': / Component 2 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

14. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 4 (n[multiplicity:'2'] + Cr49 + gamma): / Form 'eval': / Component 3 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

15. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 5 (n + He4 + Ti46 + gamma): / Form 'eval': / Component 0 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

16. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 5 (n + He4 + Ti46 + gamma): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

17. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 5 (n + He4 + Ti46 + gamma): / Form 'eval': / Component 2 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

18. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 5 (n + He4 + Ti46 + gamma): / Form 'eval': / Component 3 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

19. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 6 (n + H1 + V49 + gamma): / Form 'eval': / Component 0 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

20. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 6 (n + H1 + V49 + gamma): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

21. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 6 (n + H1 + V49 + gamma): / Form 'eval': / Component 2 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

22. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 6 (n + H1 + V49 + gamma): / Form 'eval': / Component 3 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

23. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 7 (n + Cr50_e1): / Form 'eval': / Component 0 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

24. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 7 (n + Cr50_e1): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

25. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 7 (n + Cr50_e1): / Form 'eval': / Component 2 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

26. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 7 (n + Cr50_e1): / Form 'eval': / Component 3 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

27. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 8 (n + Cr50_e2): / Form 'eval': / Component 0 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

28. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 8 (n + Cr50_e2): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

29. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 8 (n + Cr50_e2): / Form 'eval': / Component 2 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

30. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 8 (n + Cr50_e2): / Form 'eval': / Component 3 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

31. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 9 (n + Cr50_e3): / Form 'eval': / Component 0 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

32. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 9 (n + Cr50_e3): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

33. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 9 (n + Cr50_e3): / Form 'eval': / Component 2 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

34. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 9 (n + Cr50_e3): / Form 'eval': / Component 3 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

35. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 10 (n + Cr50_e4): / Form 'eval': / Component 0 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

36. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 10 (n + Cr50_e4): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

37. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 10 (n + Cr50_e4): / Form 'eval': / Component 2 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

16

38. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 10 (n + Cr50_e4): / Form 'eval': / Component 3 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

39. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 11 (n + Cr50_e5): / Form 'eval': / Component 0 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

40. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 11 (n + Cr50_e5): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

41. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 11 (n + Cr50_e5): / Form 'eval': / Component 2 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

42. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 11 (n + Cr50_e5): / Form 'eval': / Component 3 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

43. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 12 (n + Cr50_e6): / Form 'eval': / Component 0 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

44. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 12 (n + Cr50_e6): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

45. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 12 (n + Cr50_e6): / Form 'eval': / Component 2 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

46. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 12 (n + Cr50_e6): / Form 'eval': / Component 3 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

47. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 13 (n + (Cr50_c ->Cr50 + gamma)): / Form 'eval': / Component 0 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

48. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 13 (n + (Cr50_c ->Cr50 + gamma)): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

49. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 13 (n + (Cr50_c ->Cr50 + gamma)): / Form 'eval': / Component 2 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

50. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 13 (n + (Cr50_c ->Cr50 + gamma)): / Form 'eval': / Component 3 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

51. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 14 (Cr51 + gamma): / Form 'eval': / Component 0 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

52. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 14 (Cr51 + gamma): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

53. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 14 (Cr51 + gamma): / Form 'eval': / Component 2 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

54. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 14 (Cr51 + gamma): / Form 'eval': / Component 3 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

55. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 15 (H1 + (V50_s ->V50 + gamma)): / Form 'eval': / Component 0 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

56. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 15 (H1 + (V50_s ->V50 + gamma)): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

57. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 15 (H1 + (V50_s ->V50 + gamma)): / Form 'eval': / Component 2 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

58. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 15 (H1 + (V50_s ->V50 + gamma)): / Form 'eval': / Component 3 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

59. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 16 (H2 + V49_s): / Form 'eval': / Component 0 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

60. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 16 (H2 + V49_s): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

61. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 16 (H2 + V49_s): / Form 'eval': / Component 2 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

62. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 16 (H2 + V49_s): / Form 'eval': / Component 3 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

63. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 17 (He4 + (Ti47_s ->Ti47 + gamma)): / Form 'eval': / Component 0 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

64. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
   Section 17 (He4 + (Ti47_s ->Ti47 + gamma)): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

65. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
   Section 17 (He4 + (Ti47_s ->Ti47 + gamma)): / Form 'eval': / Component 2 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

66. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
   Section 17 (He4 + (Ti47_s ->Ti47 + gamma)): / Form 'eval': / Component 3 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

- `fudge-4.0` Errors:

   1. Calculated and tabulated Q values disagree.
      reaction label 8: n[multiplicity:'2'] + Cr49 + gamma (Error # 0): Q mismatch

      ```
      WARNING: Calculated and tabulated Q-values disagree: 7.62939453125e-6 eV vs -1.3e7 eV!
      ```

   2. Calculated and tabulated Q values disagree.
      reaction label 9: n + H1 + V49 + gamma (Error # 0): Q mismatch

      ```
      WARNING: Calculated and tabulated Q-values disagree: -9549604.014549255 eV vs -9.59e6 eV!
      ```

   3. Calculated and tabulated Q values disagree.
      reaction label 10: Cr51 + gamma (Error # 0): Q mismatch

      ```
      WARNING: Calculated and tabulated Q-values disagree: 9275927.112319946 eV vs 9.2617e6 eV!
      ```

   4. Calculated and tabulated Q values disagree.
      reaction label 11: n + He4 + Ti46 + gamma (Error # 0): Q mismatch

      ```
      WARNING: Calculated and tabulated Q-values disagree: -9910211.324119568 eV vs -8.56e6 eV!
      ```

   5. Calculated and tabulated Q values disagree.
      reaction label 12: H1 + (V50_s ->V50 + gamma) (Error # 0): Q mismatch

      ```
      WARNING: Calculated and tabulated Q-values disagree: -153950.3703842163 eV vs -2.563e5 eV!
      ```

   6. Calculated and tabulated Q values disagree.
      reaction label 13: H2 + V49_s (Error # 0): Q mismatch

      ```
      WARNING: Calculated and tabulated Q-values disagree: -7332229.707946777 eV vs -7.364e6 eV!
      ```

7. Calculated and tabulated Q values disagree.
   reaction label 14: He4 + (Ti47_s -> Ti47 + gamma) (Error # 0): Q mismatch

   ```
   WARNING: Calculated and tabulated Q-values disagree: -289061.9924926758 eV vs 3.195e5 eV!
   ```

8. Multiplicity does not match sum of linked product multiplicities!
   *multiplicitySum label 4: Cr51 + gamma total gamma multiplicity (Error # 0): summed-
   MultiplicityMismatch*

   ```
   WARNING: Multiplicity does not match sum of linked product multiplicities! Max diff: 47.22%
   ```

9. A summed covariance refers to another which refers back to the first which refers the
   second which refers to the first which refers to the ...
   (Error # 5): Cyclic

   ```
   n-024_Cr_050.endf: WARNING: Cyclic dependency in summed covariances for sections /covarianceSuite/section[@label
   ```

- `njoy2012` Warnings:

  1. Message comes from several resonance types that do not support the calculation of angu-
     lar distributions. Some of them can be used if `Want_SAMRL_RM` or `Want_SAMRML_BW` are
     true.
     *reconr...reconstruct pointwise cross sections in pendf format (0): RECONR/calculation
     of angular distribution not installed (0)*

     ```
       ---message from rdf2bw---calculation of angular distribution not installed.
         samm max legendre order:  0
     ```

  2. Evaluation has no unresolved resonance parameters given
     unresr...calculation of unresolved resonance cross sections (0): No URR

     ```
       ---message from unresr---mat 2425 has no unresolved parameters
                          copy as is to nout
     ```

  3. Evaluation has no unresolved resonance parameters given
     purr...probabalistic unresolved calculation (0): No URR

     ```
       ---message from purr---mat 2425 has no unresolved parameters
                          copy as is to nout
     ```

  4. There is bad Kalbach parameter (r(E) or otherwise)
     check...ace consistency check (0): ACER/check energy distributions (0)

     ```
       check energy distributions
         consis: ep.gt.epmax 9.608011E-12 with q.lt.0 for (n,x) at e  1.000000E-11 -> 1.000000E-11
     ```

  5. There is bad Kalbach parameter (r(E) or otherwise)
     check...ace consistency check (1): ACER/check energy distributions (0)

     ```
       check energy distributions
         consis:   awr.lt.180---this is probably an error.
     ```

  6. There is bad Kalbach parameter (r(E) or otherwise)
     check...ace consistency check (2): ACER/check energy distributions (0)

```
        check energy distributions
          consis: shifting eprimes greater than epmax and renorming the distribution
```

  7. There is bad Kalbach parameter (r(E) or otherwise)
     check...ace consistency check (3): ACER/check energy distributions (0)


```
        check energy distributions
          consis: ep.gt.epmax 7.686409E+01 with q.lt.0 for (n,x) at e  8.000000E+01 -> 7.694607E+01
```

  8. There is bad Kalbach parameter (r(E) or otherwise)
     check...ace consistency check (4): ACER/check energy distributions (0)


```
        check energy distributions
          consis:   awr.lt.180---this is probably an error.
```

  9. There is bad Kalbach parameter (r(E) or otherwise)
     check...ace consistency check (5): ACER/check energy distributions (0)


```
        check energy distributions
          consis: shifting eprimes greater than epmax and renorming the distribution
```

10. There is bad Kalbach parameter (r(E) or otherwise)
    check...ace consistency check (6): ACER/check energy distributions (0)


```
        check energy distributions
          consis: ep.gt.epmax 8.166809E+01 with q.lt.0 for (n,x) at e  8.500000E+01 -> 8.184709E+01
```

11. There is bad Kalbach parameter (r(E) or otherwise)
    check...ace consistency check (7): ACER/check energy distributions (0)


```
        check energy distributions
          consis:   awr.lt.180---this is probably an error.
```

12. There is bad Kalbach parameter (r(E) or otherwise)
    check...ace consistency check (8): ACER/check energy distributions (0)


```
        check energy distributions
          consis: shifting eprimes greater than epmax and renorming the distribution
```

13. There is bad Kalbach parameter (r(E) or otherwise)
    check...ace consistency check (9): ACER/check energy distributions (0)


```
        check energy distributions
          consis: ep.gt.epmax 1.249041E+02 with q.lt.0 for (n,x) at e  1.300000E+02 -> 1.249761E+02
```

14. There is bad Kalbach parameter (r(E) or otherwise)
    check...ace consistency check (10): ACER/check energy distributions (0)


```
        check energy distributions
          consis:   awr.lt.180---this is probably an error.
```

15. There is bad Kalbach parameter (r(E) or otherwise)
    check...ace consistency check (11): ACER/check energy distributions (0)


```
        check energy distributions
          consis: shifting eprimes greater than epmax and renorming the distribution
```

16. Only partial urr covariance data was given.
    errorr...produce cross section covariances (0):   ERRORR/resprx (5)

```
    ---message from resprx---mf2 nls=3, but mf32 nls=0
                          continue with partial urr covariance data
```

17. No scattering radius uncertainty given.
    errorr...produce cross section covariances (1):   ERRORR/rpxlc12 (0)

```
    ---message from rpxlc12---no scattering radius uncertainty
```

18. Generic warning message
    errorr...produce cross section covariances (2):   Warning

```
    ---message from rpxlc12---resonance parameter loop done              135.6s
```

19. Generic warning message
    errorr...produce cross section covariances (3):   Warning

```
    ---message from rpxlc12---sensitivity calculation continues          728.1s
```

20. Generic warning message
    errorr...produce cross section covariances (4):   Warning

```
    ---message from rpxlc12---sensitivity calculation completed         1646.3s
```

- `acelst` Warnings:

  1. The incident energy grid is not monotonic for this angular distribution
     0: Bad Ang. Dist.

```
     ACELST WARNING - Processing Ang.Dist.MT          2
                      E-grid non-monotonic   2.000000000E+01 2.000000000E+01
```

- `xsectplotter` Errors:

  1. Exception IndexError was thrown
     /usr/local/lib/python2.7/site-packages/matplotlib-1.5.3-py2.7-linux-x86_64.egg/matplotlib/font_manager.py:2
     UserWarning: Matplotlib is building the font cache using fc-list. This may take a mo-
     ment. (Error # 2): IndexError

```
     IndexError: list index out of range
```

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